WHAT IS CLAIMED IS:

1. A microsystem for determining clotting time of blood, the microsystem comprising:

a single-use device including: a microfluidic channel formed in the device; inlet and outlet ports in fluid communication with the channel wherein the inlet port allows the introduction of blood into the channel and wherein the blood flows along a length of the channel; and a microsensor at least partially in fluid communication with the channel for sensing a property of the blood at various locations along the length of the channel and providing corresponding signals; and

a signal processor for processing the signals to obtain the clotting time.

2. The microsystem as claimed in claim 1, wherein the microsensor includes a pair of spaced, conductive traces extending along the length of the channel.

3. The microsystem as claimed in claim 2, wherein the conductive traces are equally spaced along the length of the channel.

4. The microsystem as claimed in claim 2, wherein the conductive traces are variably spaced along the length of the channel.

5. The microsystem as claimed in claim 2, wherein at least one of the conductive traces is segmented at predetermined intervals along the length of the channel.

6. The microsystem as claimed in claim 2, wherein the conductive traces are conductive metal or carbon traces.

7. The microsystem as claimed in claim 1, wherein the channel is spiral-shaped to minimize footprint size of the device.

8. The microsystem as claimed in claim 7, wherein the microsensor is also spiral-shaped.

9. The microsystem as claimed in claim 7, wherein the microsensor is spoke-shaped.

10. The microsystem as claimed in claim 1 wherein the signal processor includes a circuit for processing the signals to obtain a stop signal which indicates that the blood is clotted.

11. The microsystem as claimed in claim 1, wherein the property of the blood is at least one of impedance and capacitance of the blood in the channel.

12. The microsystem as claimed in claim 2, wherein the conductive traces includes Ag/AgCl, gold, platinum or iridium lines at least partially disposed in the channel.

13. The microsystem as claimed in claim 1, wherein the microsensor includes a set of spaced conductors disposed in the channel adjacent the inlet port to provide a start signal when the blood is first introduced into the channel and wherein the signal processor processes the start signal.

14. The microsystem as claimed in claim 1, wherein the device further includes a substrate and a cap having the inlet port, the channel being disposed between the cap and the substrate.

15. A low-cost, single-use device for analyzing blood coagulation, the device comprising:

a microfluidic channel;

inlet and outlet ports in fluid communication with the channel wherein the inlet port allows the introduction of blood into the channel and wherein the blood flows along a length of the channel; and

a microsensor at least partially in fluid communication with the channel for sensing a property of the blood at various locations along the length of the channel and providing corresponding signals.

16. The device as claimed in claim 15, wherein the microsensor includes a pair of spaced, conductive traces extending along the length of the channel.

17. The device as claimed in claim 16, wherein the conductive traces are equally spaced along the length of the channel.

18. The device as claimed in claim 16, wherein the conductive traces are variably spaced along the length of the channel.

19. The device as claimed in claim 16, wherein at least one of the conductive traces is segmented at predetermined intervals along the length of the channel.

20. The device as claimed in claim 16, wherein the conductive traces are conductive metal or carbon traces.

21. The device as claimed in claim 15, wherein the channel is spiral-shaped to minimize footprint size of the device.

22. The device as claimed in claim 21, wherein the microsensor is also spiral-shaped.

23. The device as claimed in claim 21, wherein the microsensor is spoke-shaped.

24. The device as claimed in claim 15, wherein the property of the blood is at least one of impedance and capacitance of the blood in the channel.

25. The device as claimed in claim 16, wherein the conductive traces includes Ag/AgCl, gold, platinum or iridium lines at least partially disposed in the channel.

26. The device as claimed in claim 15, wherein the microsensor includes a set of spaced conductors disposed in the channel adjacent the inlet port to provide a start signal when the blood is first introduced into the channel.

27. The device as claimed in claim 15, further comprising a substrate and a cap including the inlet port, the channel being disposed between the cap and the substrate.

28. The microsystem as claimed in claim 1, wherein the blood flows in the channel by capillary action or laminar flow.

29. The device as claimed in claim 15, wherein the blood flows in the channel by capillary action or laminar flow.